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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/815,108	03/31/2004	Rakesh Tuli	U 015126-7	6584

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Ladas & Parry
26 West 61 Street
New York, NY 10023

EXAMINER

HWU, JUNE

ART UNIT	PAPER NUMBER
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1661

MAIL DATE	DELIVERY MODE
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11/30/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/815,108	Applicant(s) TULI ET AL.	
	Examiner June Hwu	Art Unit 1661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-10,12-19 and 21-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-10,12-19 and 21-32 is/are rejected.
- 7) ☒ Claim(s) 18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The amendment of the claims filed on October 11, 2007 is acknowledged and entered.

The text of those sections of Title 35, U.S. Code not included in this action can be found in the prior Office action.

Status of the Claims

Claims 2, 11 and 20 are cancelled and claims 1, 3-10, 12-19 and 21-32 will be examined on the merits.

Claim Objections

Claim 18, line 1 remains objected to because an article is missing before "potting".

Claim Rejections - 35 USC § 103

Claims 1, 6-8, 10, 12-17, 19, 21-24, 28, and 30-32 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Mishra et al (Plant Cell, Tissue and Organ Culture 73:21-35, 2003) in view of Dasgupta et al (US 2005/0235377 A1).

Applicants' arguments filed October 11, 2007 have been fully considered but they are not persuasive.

Applicants urge that the combination of Mishra et al in view of Dasgupta et al do not teach or make obvious of the claimed invention of synchronized regeneration of cotton plants (response pp. 9-10).

This is not found persuasive because the somatic embryos that are synchronized developmentally are the effect of intended use and is irrelevant. Dasgupta et al are silent to the synchronized development of embryos after short duration of inositol starvation but the end

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result are the same as the instant invention, development of plantlets that are ready to be planted in the field (Dasgupta, [0125] - [0128]).

Applicants urge that Mishra et al teach away from synchronized development of embryos (response p. 10).

This is not found persuasive because Mishra et al taught a method of regenerating cotton through somatic embryogenesis and Dasgupta et al was combined to show that it is not necessary to add inositol in the culture medium.

Applicants urge that Mishra et al methods and results are contrary to claim 1 because Mishra et al taught that seedlings and cultured hypocotyls explants were used to induce callus formation for somatic embryogenesis (response p. 10).

This is not found persuasive because the claim 1 describes a method of regenerating cotton through somatic embryogenesis of hypocotyls (at (i)), wherein a callus is formed from the explant (at (ii)). Mishra et al in view of Dasgupta et al teach what is being claimed.

Applicants urge that Dasgupta et al do not provide motivation to utilize inositol deprivation because synchronized embryo development also increased number of embryos recovered (response p. 10).

This is not found persuasive because as stated above synchronized embryo development is the effect of intended use and Dasgupta et al taught that their calli eventually developed into plants when deprived of inositol. One of ordinary skill in the art would have been motivated to use the method of regenerating cotton by somatic embryogenesis as taught by Mishra et al and combine that method with inositol deprivation as taught by Dasgupta et al because cotton is the world's leading natural fiber and second largest oilseed crop (Mishra p. 21, left col.)

Applicants urge that Mishra et al in view of Dasgupta et al could not provide a reasonable expectation of success because there was no teaching that inositol deprivation at a particular stage would lead to synchronized embryonic development (response pp. 10-11).

This is not found persuasive because Dasgupta has shown that inositol deprivation caused the development of calli tissue into plantlet. With regard to the synchronized embryonic development is irrelevant because it is the result of intended use.

Applicants urge that Dasgupta et al do not described their objective or report that inositol starvation produced increased embryogenesis and/or synchronization of embryonic development as claimed (response p. 11).

Examiner agrees that Dasgupta et al do not describe their objective or report that inositol starvation produced increase embryogenesis and/or synchronization of embryonic development. However, the instant claims do not cite increased embryogenesis when explants are deprived of inositol.

Applicants urge that Dasgupta et al employed inositol starvation at different stage of development when compared to the instant invention of culturing explants and calli and selecting the subculture embryonic clumps in inositol-rich media before transferring to inositol-free medium (response p. 11).

This is not found persuasive because the obviousness rejection is based upon Mishra et al in view of Dasgupta et al. Mishra et al taught the use of inositol-rich medium for callus induction (p. 23, right col. of Mishra reference) and then Dasgupta et al was combined to show that no inositol is necessary until the calli reached 10 mm is size then the inositol was added to the medium for regeneration ([0125] of Dasgupta reference).

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Applicants continue to reiterate that the combination of reference would not allow a person of ordinary skill in the art to successfully practice the instant invention because the references do not provide synchronized development (response p. 11).

This is not found persuasive because as stated above the synchronized development of embryos is the results of intended use.

Applicants urge that plant embryos are deprived of inositol at a particular stage of development (see claim 1(v)) (response p. 12).

This argument is not found persuasive because claim 1(v) cites "the embryogenic cells, the clumps, the callus or any combination thereof" and Dasgupta taught that the embryos [0123] and calli were deprived of inositol [0125].

Applicants urge that Mishra et al and Dasgupta et al do not teach the inositol deprivation for short duration (response p. 12).

This argument is not found persuasive because Mishra et al used inositol-rich culture medium for somatic embryogenesis of cotton and then Dasgupta et al was combined to show that the calli were selected by culturing treated calli on medium without inositol (7-10 day interval) for two to three months or until they reached 10 mm size and then once they reached appropriate size the calli were transferred to medium with inositol [0125].

Applicants reiterate that increased somatic embryogenesis and synchronization of embryologic development by inositol deprivation are not obvious over Mishra et al in view of Dasgupta et al (response p. 12).

This argument is not found persuasive because as stated above the claims do not cite increased somatic embryogenesis by inositol deprivation and synchronization of embryologic development is irrelevant.

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Claims 3-5, 9, 18 and 25 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Mishra et al in view of Dasgupta et al as applied to claims 1, 6-8, 10, 12-17, 19, 21-24, 28, and 30-32 above, and further in view of Gupta et al (Plant Cell, Tissue and Organ Culture 51: 149-152, 1997).

Applicants urge that Gupta et al do not consider inositol deprivation as means of improved somatic embryogenesis and synchronized embryonic development (response pp. 12-13).

This argument is not found persuasive because Gupta et al was combined with Mishra et al in view of Dasgupta et al to show that seed scorching would have been obvious to use for breaking seed dormancy.

For the reasons outlined above and in the previous Office action, the rejection is deemed proper and is maintained.

Conclusion

No claims are allowed.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to June Hwu whose telephone number is (571) 272-0977. The Examiner can normally be reached Monday through Thursday from 6:00 a.m. to 4:30 p.m.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Anne Marie Grunberg, can be reached on (571) 272-0975. The fax number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JH


ANNE KUBELIK, PH.D.
PRIMARY EXAMINER